REMARKS

Response to the §103 Rejection of Claims 1-14

In the outstanding Office Action, the Examiner rejected claims 1-14 under 35 U.S.C. §103(a) as allegedly obvious over the combination of U.S. Patent No. 5,352,624 to Miwa et al. (hereinafter "Miwa") and U.S. Patent 5,627,401 to Yallup (hereinafter "Yallup").

In response, Applicants have amended claim 1, from which claims 2-14 depend, to positively recite a bipolar transistor that comprises:

"a semiconductor substrate layer;

a conductive back electrode located over the semiconductor substrate layer for receiving a bias voltage;

an insulating layer located directly over said conductive back electrode..."

Support for such claim amendments can be found in Figure 1C of the instant specification, which shows a semiconductor substrate layer 14, a conductive back electrode 24 that is located over the semiconductor substrate layer for receiving a bias voltage, and an insulating layer 22u that is located directly over the conductive back electrode 24.

Nothing in the cited references, Miwa and Yallup, teaches or suggests a bipolar transistor that comprises a semiconductor substrate layer, a conductive back electrode, and an insulating layer with the above-specified spatial arrangement, as positively recited by claims 1-14 of the present application.

Miwa fails to disclose any conductive back electrode for a bipolar transistor.

In the February 21, 2006 Office Action, the Examiner asserted that Miwa discloses a conductive back electrode 603b for a bipolar transistor in Figure 21E.

However, Miwa clearly states that the polysilicon film 603b respectively forms a base leading electrode for the bipolar transistor (BIP) on one hand, and a back gate electrode for the MOSFET on the other hand (see Miwa, column 41, lines 41-45). In other words, the polysilicon film 603b disclosed by Miwa functions only as a base leading electrode in the bipolar transistor (BIP) of Figure 21E, but not as a back gate electrode. Therefore, the Examiner's assertion that Miwa discloses in Figure 21E a conductive back electrode 603b for the bipolar transistor (BIP) is incorrect.

In fact, **nothing in Miwa teaches or suggests the use of a conductive back electrode in the bipolar transistor (BIP) of Figure 21E, much less a bipolar transistor that comprises a semiconductor substrate layer, a conductive back electrode, and an insulating layer with the specific spatial arrangement recited by claims 1-14 of the present application**.

Yallup discloses in Figure 2 a back gate contact 26.

However, the back gate contact 26 of Yallup is **not located over** a semiconductor substrate; instead, it is located underneath a silicon substrate 24 (see Figure 2 of Yallup). Further, Yallup **does not disclose any insulating layer that is located "directly over" the back gate contact 26**, as positively recited by claims 1-14 of the present application. Instead, Yallup discloses a silicon substrate 24 that is located over the back gate contact 26 and an insulating layer 22 that is in turn located over the silicon substrate 24.

Therefore, **Yallup also fails to provide any derivative basis for a bipolar transistor that comprises a semiconductor substrate layer, a conductive back electrode, and an insulating layer with the specific spatial arrangement recited by claims 1-14 of the present application.**

Moreover, the combination of the Miwa and Yallup would only yield a bipolar transistor that comprises the back gate contact 26 of Yallup located underneath the silicon substrate 600' of Figure 21E of Miwa, which is in turn located underneath an insulator layer 604 (as shown in Figure 21C of Miwa).

Therefore, **even the combination of Miwa and Yallup does not provide basis for a bipolar transistor that comprises a semiconductor substrate layer, a conductive back electrode, and an insulating layer with the specific spatial arrangement recited by claims 1-14 of the present application**.

As such, claims 1-14 of the present application patentably distinguish over the disclosures of Miwa and Yallup, either taking singularly or in combination.

The rejection under 35 U.S.C. § 103 has been obviated; therefore reconsideration and withdrawal thereof is respectfully requested.

In view of the foregoing amendments and remarks, it is firmly believed that the present case is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

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